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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER	
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ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/179,872	Applicant(s) Pan-Jin Kim, Kyonggi-Do	
	Examiner Brown M. Reuben	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

1)☐ Responsive to communication(s) filed on *02 February 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) *15-16* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-14 & 17-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a)☐ All b)☐ Some * c)☐ None of the CERTIFIED copies of the priority documents have been:

1.☐ received.

2.☐ received in Application No. (Series Code / Serial Number) _____ .

3.☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

14) ☒ Notice of References Cited (PTO-892)
15) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
16) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
17) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
18) ☐ Notice of Informal Patent Application (PTO-152)
19) ☐ Other: .

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 2/27/2001 have been fully considered but they are not persuasive. Applicant traverses examiner's restriction requirement with respect to Groups I & II. Examiner respectfully disagrees with applicant's arguments. In particular, applicant suggests that since the preamble of both Groups of claims are directed to methods for displaying channel information on a digital TV receiver, and along with other various factors, that the all pending claims should be examined. To that end applicant asserts that even though examiner has identified different classifications of the instant groups of claims, that such classifications may not be conclusive on the question of restriction.

However, examiner contends that the subject matter recited in the Group I claims is directed to displaying transmitted/received multiple channels of programming in a TV broadcasting system. Group I claims require that the user click a particular major channel, and subsequently a corresponding plurality of minor channels are presented to the user. Such a transmission technology is similar to the Arsenault patent previously cited by the examiner. Furthermore, the GUI technology required in Group I claims merely reads on a pull-down or drop-down menu arrangement, wherein the user is presented with a plurality of choices, subsequent to a previous choice. Such GUI technology is independent and distinct from the scroll bar technology recited in Group II claims.

Group II claims are specifically directed to a form of GUI technology known as scroll bars, and again is independent and distinct from anything required in the Group I claims. Group II claims also include technology requiring multiple windows on a screen. Examiner previously cited the Rauch patent as an example of technology relevant to the Group II claims. Furthermore, applicant fails to make any arguments concerning examiner's previous assertion that the instant groups are distinct from the other.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3, 5, 7-11, 13 & 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozkan, (U.S. Pat # 6,111,611), view of Otsuki (U.S. Pat # 5,929,932).

Considering claim 1, the claimed method for displaying channel information on a digital TV for receiving digital multichannel TV broadcasting, comprising the steps changing a current channel to a demanded major channel in response to a demand to change a change a major channel is met by the disclosure of Ozkan which teaches that a user selects a desired TV channel by first selecting the major channel, (which represents a bundle of channels), see col. 6, lines 12-25. Ozkan is directed to receiving digital TV over a multichannel transmission protocol, col. 2, lines 49-67 & col. 4, lines 24-50. Ozkan teaches that this major channel number may represent a broadcast source, such as the Fox™ network or the RF broadcast channel, i.e. Channel 13. Furthermore, in Ozkan the major channel number may also represent a particular program characteristic, such as a theme or category, and therefore the viewer may access program channels according to its category, wherein the instant category is identified by major channels. Moreover, Ozkan discusses that the user selects a secondary channel number, which represents the actual minor channel that the user desires to view, col. 6, lines 29-35.

Regarding the additional claimed feature of displaying on the TV screen the minor channel numbers of programs received through the currently selected major channel number, even though Ozkan discloses EPG functionality (and teaches that lists of sub-channels may be shown to the viewer, col. 7, lines 65-67 thru col. 8, lines 1-5 & col. 10, lines 41-43), the reference does not explicitly discuss the graphical user interface involved in such a feature. Nevertheless at the time the invention was made, it was well known in the art of EPG to arrange programming channels according to categories, such that when the user selects a particular category or theme, then the user is presented with a list of program channels that corresponds with the instant selected category. For example Otsuki discloses a graphical user interface wherein the user chooses a particular category or sub-menu, such as Movies, News or Sports and subsequently all of the corresponding programming channels are presented to the user in a list format, (Fig. 7; Fig. 8; col. 7, lines 35-55; col. 8, lines 21-35). It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Ozkan with the well known graphical user interface as shown by Otsuki, for the desirable benefit of providing the user with a visual display of potential selectable programming.

Considering claims 2 & 8-9, wherein the minor channels are sequentially arranged in a prescribed manner, Otsuki (Fig. 5; Fig. 8; Fig. 13), discloses the notoriously well known EPG technique of displaying programs in a numerical sequence according to channel number. Otsuki happens to show the list with the channel with the highest number at the bottom of the list, which

reads on the instant claim 9, since there is no recitation requiring that the highest minor channel number is at the top or the bottom of the list.

Considering claim 3, the claimed feature of displaying the minor channels subsequent to the currently selected major channel number reads on the combination of Ozkan (col. 6, lines 25-35) & Otsuki (Fig. 13; col. 11, lines 34-60), wherein after the user selects a category of programming channels, then the corresponding list of programming channels is subsequently displayed for the user.

Considering claim 5, the claimed step of changing a current channel to a demanded minor channel in response to a demand to change a minor channel is met by Ozkan, (col. 6, lines 29-42), when the user selects a sub-channel.

Considering claim 7, the amended claimed method for displaying channel information on a digital TV for receiving digital multichannel TV broadcasting, comprising the steps including selecting an RF channel corresponding to a major channel number selected by a user, reads on the subject matter mentioned above in the rejection of claim 1, and is likewise rejected. The amended claimed feature of displaying as a viewing program, a program of a minor channel received through the selected RF channel corresponding to the major channel number selected by the user reads on Otsuki (Fig. 9; col. 8, lines 34-42) which teaches that a viewer may view a currently selected program, for example PROGRAM 2, which is selected from a list of

programs. The additional claimed feature of displaying the minor channel numbers received through the major channels also reads on the combination of Ozkan & Otsuki, as discussed above in the rejection of claim 1.

Considering claim 10, it would have been obvious to display any one of the channels listed on the EPG, in Fig. 9 of Otsuki.

Considering claims 11 & 13, regarding the claimed feature of changing the viewing program by selecting a corresponding minor channel in response to a channel up or down key, Otsuki discloses in Fig. 9, that a currently selected PROGRAM 2, has it's corresponding broadcast programming displayed in the within the EPG. Official Notice is taken that at the time the invention was made, it was extremely well known in the art to highlight programs on an EPG list as the user moves the cursor in a particular direction. It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Ozkan & Otsuki with the well known technique of highlighting (selecting) programs according to the movement of a cursor, for the known benefit of informing the user of the instant location of the cursor. Therefore, in Otsuki it would have been obvious to change the currently viewed program according to the movement of the cursor.

Considering claims 17 & 18, the claimed elements of a apparatus for displaying channel information on a digital TV and elements of a device for displaying channel information on a

digital TV corresponds with subject matter mentioned above in the rejection of claim 1, and are likewise rejected. Regarding the feature of selecting a major channel which corresponds with a selected RF channel, Ozkan teaches such a feature (col. 6, lines 19-26).

3. Claim 4 & 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozkan & Otsuki as applied to claims 1 & 3 above, and further in view of Youman, (U.S. Pat # 5,629,733).

Considering claims 4 & 6, Ozkan & Otsuki do not discuss hiding any channels or programs as a result of inactivity of the user. However, Youman teaches that as a user navigates through an EPG, a graphic overlay of program information is displayed for the user, (Fig. 5; col. 11, lines 64-67 thru col. 12, lines 1-55). If the user does not make a channel change selection within a predetermined time, the instant graphic overlay is removed. It would have been obvious for one of ordinary skill in the art at time the invention was made, to modify the combination of Ozkan & Otsuki with the technology taught by Youman, at least for the known advantage of reducing the amount of processing power required by the receiver's on-screen display generator, since after a certain amount of time the user would have already viewed the instant relevant information.

4. Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozkan & Otsuki, as applied to claims 8 and 11 above, and further in view of Keenan, (U.S. Pat # 5,161,023).

Considering claim 12, the instant claimed feature reads on an endless loop operation such that once the user gets to the top of a list of programs, the next program to be highlighted (selected), would be the program at the bottom of the list, and vice versa. Keenan (col. 1, lines 51-59) discloses such a technology. It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Ozkan & Otsuki, with the known technology of 'wrap around' lists as taught by Keenan (Fig. 3A; col. 3, lines 40-52), at least for the desirable purpose of avoiding the user having to move the cursor in the other direction in order to reach the opposite extreme of the instant list, which would be burdensome on the user, at least in the case of long lists of programs.

Considering claim 14, as discussed above in the analysis of claim 12, it would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Ozkan & Otsuki with the well known 'wrap around' technology disclosed in Keenan (Fig. 3A). However, claim 14 requires the additional step that a user is automatically connected to a succeeding or preceding list of minor channels, depending on whether the user's cursor is currently selecting the highest minor channel or lowest minor channel, respectively of the currently active minor channel list. To that end, Keenan also teaches that a plurality of

independent lists of channels may be linked by pointers, which connect the first channel of an instant channel list with the last channel of the next adjacent channel list, and vice versa (Fig. 4; col. 3, lines 64-67 thru col. 4, lines 1-25; col. 5, lines 1-15).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A) Chaney Teaches transmitting and presenting digital TV to viewers using multiplexed virtual channel technology.

B) Young Provide teachings of the well-known technique of presenting programming channels to viewers according to theme or category or sequential order, see Young (Fig. 1).

Any response to this action should be mailed to:

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or faxed to:
(703) 308-6306, (for formal communications intended for entry)
Or:
(703) 308-6296 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brown M. Reuben whose telephone number is (703) 305-2399. The examiner can normally be reached on M-F (8:30-6:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Faile I. Andrew can be reached on (703) 305-4380. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-6306 for regular communications and (703)308-6306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

RB
March 12, 2001

ANDREW FAILE
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